



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

A GROUP OF RELATED STRUCTURES AT UXMAL,  
MEXICO

---

[PLATES I-II]

---

THE ruins of Uxmal in the state of Yucatan, Mexico, have long been known to the scientific world in a general way, but excepting the heart of the site, which was somewhat roughly mapped by Stephens and later by Holmes, the actual extent of this important group is as unknown to-day as at the time of the Spanish conquest. Indeed, to survey and map the entire site, which is one of the most extensive in the whole region covered by the Maya culture, and give to it a detailed study, is rather the work of large scientific institutions, operating for a term of years, than of the individual with but a single field season at his disposal.

The scope of the present paper, therefore, is by no means comprehensive. The object has been to describe as fully as possible without excavation a single group of buildings, which, by the arrangement of its several parts, seems to constitute a very definite unit of assemblage, and, in the case of the group chosen, probably a religious unit as well.

The group herewith presented lies southwest of The House of the Governor and west of The Great Pyramid (*R*, PLATE I *a*). Such, however, is the luxuriance of the vegetation here, that only its two highest members, The South Pyramid and The House of the Pigeons, are visible from the other eminences of the city, all else, terraces, courts, and quadrangles, being hidden by a riot of vines, creepers, and dense tropical foliage. On every side the bush has effectually reclaimed its own. This group is composed of two quadrangles and a terminal pyramid (*B*, *N*, and *F'*, respectively, PLATE I *a* and *b*), and two platforms (*H* and *Y*, same plate), which separate the above

from each other. These five divisions, and the units into which each may be resolved, conform very closely to the same long axis, all lying approximately in the same north and south line.

The chief entrance and direction of approach is from the north. This fact is established in several ways. First, the substructures, which support the various buildings of the group, increase in height above the level of the ground from north to south. (See the partly restored cross-section in PLATE I *b*.<sup>1</sup>) This progressive increase in height from north to south necessitated the placing of all four of the stairways at the south sides of the respective courts or terraces from which they rise (PLATE I *a*), which indicates that approach is from the north only.

Again, the high-stepped pyramid at the southern end of the group has no stairway on its southern slope. This precludes the possibility of entrance from the south side, and when taken together with the fact that the long axis of the group is north and south and that all of its members lie north of this terminal South Pyramid, it is clear that entrance can be from the north only.

Approaching from this direction, a long low promenade (*A*, PLATE I *a* and *b*) is crossed, which is the north member of the first or North Quadrangle *B*. This promenade is 225 feet long east and west, 45 feet wide, and rises 3 feet above the level of the ground. It was mounted by three steps, originally running around all four sides, but now only to be traced in a few places. At its western end it does not appear to have ever joined the terrace supporting the West Range of this quadrangle (*D*, PLATE I *a*), and probably its eastern end also stands clear of the terrace supporting the East Range (*C*, PLATE I *a*), though the relationship in this corner is less clear. The top is quite level, and although much fallen masonry is scattered about, there is hardly enough to warrant the assumption that stone structures had ever stood here. This low promenade without anything to interrupt the vision is a fitting entrance to the group. Standing upon it and looking south, the different buildings of the succeeding quadrangles can be

<sup>1</sup> The cross-section here presented was so taken as to pass through all four of the stairways.

seen rising one above the other until the lofty temple surmounting the South Pyramid catches the eye and holds it, the last and highest member of the assemblage, and, we may well believe from the importance of its position, the sanctuary. The formality of the long approach, the increasing elevation of succeeding members, and, finally, the extreme prominence of its location would seem to indicate that in the case of this temple we are dealing with a place of no less importance than the supreme sanctuary of the group.

Descending the three steps of the north platform, the court of the North Quadrangle (*B*, PLATE I *a* and *b*) is reached. This is an area 230 feet square. Somewhat east of its centre and due north of the first stairway (*F*, PLATE I *a* and *b*) is a shapeless mound of fallen masonry *E*, which probably was one of the low rectangular platforms found in the centres of all courts throughout the city. Each one of these originally seems to have supported a monolith usually from 2 to 3 feet in diameter and 5 to 7 feet high, called by Stephens the "picote."<sup>1</sup> The picote of this particular platform is missing, though a fragment of its base was found 50 feet south at the foot of the first stairway (*F*, PLATE I *a* and *b*). It is  $2\frac{1}{2}$  feet in diameter and has two intertwined serpents sculptured around its base. The use of these cylindrical monoliths is unknown. Stephens, *Incidents of Travel in Yucatan*, vol. I, p. 182, says that the Indians called the large stone shaft, or column, on the terrace in front of The House of the Governor "the picote," or whipping-post, though no reasons for this identification are advanced. The association of these monoliths with the custom of flagellation in the absence of more definite traditional proof seems hazardous, particularly since there is to be found in the Usamacinta region, the habitat of a Maya culture older than that of Yucatan, a logical prototype for them. The writer refers to the stone *stelae*, or sculptured monoliths, which occur in front of buildings and pyramids throughout the Usamacinta area, and which reach their highest development in the elabo-

<sup>1</sup> The picote in front of The House of the Governor is considerably larger than this, reaching a height of 8 feet above the ground and a diameter of 5 feet at its base. Such dimensions, however, are unusual, and indeed, so far as known, occur nowhere else in the city.

rately sculptured monuments of Copan and Quirigua. These monoliths at Uxmal may well be a degenerate expression of the same idea which gave rise to the *stelae* of the older area. Such an identification, at least, seems more reasonable than the association of these monoliths with the custom of flagellation in the complete absence of supporting traditional evidence. Every court as mentioned above seems to have been provided with one. Sometimes they are completely covered with elaborately sculptured serpents or hieroglyphs, and again others are perfectly plain.

The three ranges of rooms surrounding the north court on its east, south, and west sides (*C*, *G*, and *D*, respectively, PLATE I *a*) do not rise directly from the level of the ground, but stand upon a low terrace some 3 feet high, reached by as many steps. These ranges, as well as all the other structures of the group, are of one architectural type: the Maya arch, which was employed not only here, but also throughout the whole region covered by the Maya culture to the exclusion of every other method of construction. Indeed, it would almost seem that this gifted race knew of no other than that of the false arch which they applied universally. Maya structures are built of rubble encased with a veneer of dressed stone, which was applied before the rubble hearting had set. This veneer or surface facing is in reality nothing more than a great mosaic, serving no structural function. In many buildings large sections of it have fallen off without disturbing in the least the solidarity of the rubble hearting. Rooms are roofed with steep false arches let into this rubble hearting (*G*, *M*, *V*, and *F'*, PLATE I *b*). These are faced like the exterior and interior walls with a veneer of dressed stone. As no provisions for superimposed weight other than human, a negligible quantity at its maximum, had to be made, the cohesive strength of the rubble alone was more than sufficient to support this false arch, though the width spanned is necessarily limited, rarely exceeding more than 10 or 12 feet.

Returning to the North Quadrangle again, the East and West Ranges *C* and *D* are found to be in an advanced state of ruin. Originally each was composed of two non-communicating series of rooms, one behind the other, in each case the series fronting

upon the court being better preserved than the outside series (*C* and *D*, PLATE I *a*).

The rooms of these interior series, where it was possible to measure them, vary from 14 to 22 feet in length and from 8 to 10 feet in width. All are uniformly 18 feet high. The middle walls of these two ranges contain no openings, and consequently all rooms had to be entered through exterior doorways.

The southern end of the East Range *C* is built against the eastern end of the South Range *G*, the corner thus formed appearing quite clearly in spite of the widespread ruin here. It is probable that the southern end of the West Range *D* also was similarly attached to the western end of the South Range in former times, but débris is now piled so high in this corner of the court that it would be impossible to trace the ground-plan without extensive excavation.

The remaining side of the North Quadrangle (*G*, PLATE I *a* and *b*) is the most interesting. It is composed of a single series of nine rooms built against the artificial terrace in front of The House of the Pigeons (*H*, PLATE I *a* and *b*). Entrance could only be effected by doorways in the north wall, as the south wall was built against the solid rubble terrace *H*. All the rooms are badly demolished. The average length east and west is 21 feet. The width is  $8\frac{1}{2}$  feet. Walls are 2 feet thick.

The façades of all three of these ranges, *C*, *D*, and *G*, have collapsed, and without excavation it is impossible to say whether their upper zones had been sculptured or not. Judging from the other members of the group which have retained their façades, all were probably quite plain, barring of course the ever-present triple-member cornice which appears on the vast majority of Maya façades, dividing them horizontally into two zones. The platform *H*, which extends over the rooms of the South Range *G*, is 18 feet higher than the court below.

It is reached by a stairway (*F*, PLATE I *a* and *b*) 33 feet wide, the steps of which probably had a tread of about 18 inches and a rise of 8 or 10 inches. This stairway has now completely collapsed, but there are ample proofs of its former existence on every side.

Unless measures had been taken to prevent, the building of

this stairway would have blocked the entrance of the room over which it passed (PLATE I *a* and *b*). That the ancient builders, however, foresaw and forestalled this contingency seems probable from the fact that they satisfactorily overcame the same difficulty not only in other cities of Yucatan, Chichen Itza and Kabah, but also in other buildings here at Uxmal. In the House of the Dwarf, for example, a half arch was built underneath the stairway, which ascends the western slope of that pyramid, having for one of its sides the exterior wall of the room or rooms that the stairway otherwise would have blocked. These rooms open directly into the passageway thus formed, which in turn leads to the outside. There seems to be a fragment of a similar construction (*i.e.* the half arch) (*U*, PLATE I *a* and *b*) still adhering to the South Range *V* of the South Quadrangle in front of the room over which the third stairway *U* passes. Doubtless the same thing was present under the first stairway *F*, though the half arch in this latter case has given way completely and wrecked the steps above. This satisfactorily accounts for the greater demolition of *F* and *U*, the first and third stairways, where these half arches were necessarily present, than of the second and fourth, *K* and *E*, which were much better preserved because of the absence of this element of weakness. These half arches below the first and third stairways have been restored in the cross-section (*F* and *U*, PLATE I *b*).

Passing up the first stairway and out of the Court of the North Quadrangle, the broad platform (*H*, PLATE I *a* and *b*) in front of The House of the Pigeons is reached. This is 270 feet wide east and west and 88 feet deep. It is devoid of any kind of structure except for a mound (*J*, PLATE I *a*) running across its western end. The summit of this mound is slightly higher than the terrace *L*, and originally had supported a building of some sort, only the ruins of which now remain. The eastern end of the platform terminates in a broad stairway leading to the area (*I*, PLATE I *a*) just north of the Great Pyramid *R* and the range of rooms at its northern base. The south side of this platform *H* is an almost vertical wall of faced masonry 9 feet high, which forms the north retaining wall of the terrace *L*. Three human figures drawn to scale have been

introduced in the cross-section (PLATE I *b*) upon this platform *H* to give an idea of relative size.

The second stairway *K*, which rises from the south side of platform *H* is 60 feet wide. It is composed of ten or twelve low, deep steps, and leads to the narrow terrace *L*, extending along the entire front of The House of the Pigeons. The structure thus fancifully designated is one of the most imposing in the city. Its name is derived from the curious form of the roof-comb,<sup>1</sup> which rises in nine triangular extensions, each pierced with many rectangular openings. In the accompanying illustration (PLATE II)<sup>2</sup> only the five middle ones appear. The resemblance of these extensions and their window-like apertures to dove-cotes suggested the name "House of the Pigeons," which Stephens first applied to this structure.

This building (*M*, PLATE I *a* and *b* and PLATE II) is 232 feet long east and west, 32 feet wide, and, including the roof-comb, 35 feet high. It is composed of two series of rooms, a northern and southern, interrupted by an arcade passing through the middle of the building, which appears in PLATE II, and a small annex at the southwest corner containing two rooms, the long axes of which are north and south like that of the arcade, or at right angles to those of the other rooms. This arcade is 32 feet long (the width of the building) north and south, 9½ feet wide, and 13½ feet high. It opens directly into the Court of the South Quadrangle (*N*, PLATE I *a* and *b*) and affords passageway from the North Quadrangle to all structures of the group south of it.

<sup>1</sup> The roof-comb is a common feature of Maya architecture, and occurs throughout the Usamacinta region, as well as in Yucatan. It consists of a wall sometimes 15 feet or more in height built upon the roof of a structure. Except that it is always parallel to the long axis of the building it surmounts, the position of the roof-comb varies. It may stand directly over the back, middle, or front of the building or at any intermediate point. This roof-crest, as it has been called by some, passes through an interesting development. In the earlier forms, as at Tikal, Guatemala, it consists of a solid wall, to support which masonry buttresses were built inside of the building directly beneath the superimposed weight. Later, as here at Uxmal in The House of the Pigeons, this solid wall was pierced with rectangular openings to lighten it, and it was placed directly over the middle wall of the building, so that the middle wall could be utilized for its support.

<sup>2</sup> Kindly lent by the Field Museum in Chicago.



The northern series of rooms was composed originally of six long chambers, three on each side of the arcade, ranging from 30 to 34 feet in length and uniformly  $9\frac{1}{2}$  feet wide. Sometime after the completion of the building, however, each one of these was divided into two smaller rooms by the erection of a north and south partition across its middle. That this subdivision dates from a period later than the erection of the building would seem to be indicated by the fact that none of the later partitions mentioned penetrate the thick middle wall, but merely abut against it. There was no bonding of the courses of these partitions with those of the middle wall, and, moreover, they are of less thickness than the eastern and western walls of the six original rooms (*M*, PLATE I *a*). The twelve smaller rooms thus formed vary from 14 to 16 feet in length. The width remained unchanged. As no doorways pierce the middle wall separating the north and south series from each other, it is evident that entrance to northern rooms must have been gained by doorways in the north wall, and similarly, entrance to southern rooms through doorways in the south wall.

The southern series of rooms differs in its arrangement from the northern. East of the arcade it is divided into five rooms, and west of the arcade into four, the place of the fifth room on the western end being occupied by the southwest annex (*M*, PLATE I *a*). These nine rooms vary in length from 16 to 22 feet and are all of the same width as the rooms of the northern series,  $9\frac{1}{2}$  feet. Judging from the joints the eastern and western walls make with the middle wall, all these rooms were built at the time of the erection of the building, and are not later subdivisions like the rooms of the northern series.

The small annex at the southwest corner introduces an element of irregularity in the ground plan of The House of the Pigeons, marring the symmetry of the building. It was thrown out to the south at right angles to the long axis so that its western façade is coincident with the western façade of the main structure (*M*, PLATE I *a*). That this annex stands upon a higher level, however, than the rest of the building is clear from the position of its medial cornice, which is 6 inches higher than the roof of the main structure. This position of the medial cornice above the roof of the main structure, when

its regular position is at least 5 feet below the level of the roof, indicates that the southwest annex stands at least 5 or 6 feet higher than the rest of the building. The southwest annex has two rooms, each 16 feet long north and south. The eastern, or back room, is  $6\frac{1}{2}$  feet wide, and the western, or front room, 5 feet wide. The entrance, now destroyed, was in the west wall of the latter, a doorway in the east wall  $4\frac{1}{2}$  feet wide giving access to the back room.

It was impossible to secure the height of a single room in this building because of the accumulation of débris on the floors. Probably they are of the same height as the arcade,  $13\frac{1}{2}$  feet.

The extreme thickness of the middle wall of this structure (*M*, PLATE I *a* and *b*),  $5\frac{1}{2}$  feet throughout its entire length, is doubtless due to the need for extra strength, which the ancient builders very cleverly foresaw would arise, when such a bulk of masonry as the roof-comb should be built along the centre of the roof. It is located directly above the centre of the middle wall. As it is but  $2\frac{1}{2}$  feet thick, and the middle wall is  $5\frac{1}{2}$  feet thick, the latter provides a margin of safety on each side of the roof-comb to take care of its downward thrust, which, in the case of such a massive construction, must be excessive. The function of the roof-comb was decorative, and in no sense structural. Originally it was the masonry framework to which an elaborate stucco relief was attached. In the course of time this has cracked and fallen away until now only a few patches remain. A fragment of an elaborate feather head-dress on the south side, in its breadth and delicacy of treatment, particularly in the handling of the drooping feathers, well indicates the magnitude of our loss in the destruction of this great relief. The entire roof-comb had once been brilliantly painted, and close examination still reveals traces of color in places sheltered from the rain.

Its nine triangular extensions, as may be seen in PLATE II, do not rise directly from the level of the roof, but surmount a triple-member cornice which itself is 5 feet above the roof top. It is symmetrically mounted with reference to the north and south axis bisecting the arcade. That is, the apex of the middle extension, the fifth from either end, is directly above the centre of the arcade. The remaining eight, four on each side, reach exactly to the east and west ends of the building.

In addition to the rectangular apertures, this roof-comb possesses another interesting characteristic. There project from its north and south faces, for 18 inches or more, a number of flat stones (PLATE II). Whether these formed the supports for stone statuettes or whether they were only the framework for elaborate and heavy pieces of stucco relief, it is now impossible to say. Probably the former hypothesis more correctly explains their use, since flat stones similarly projecting from façades at Chichen Itza and Labna still have stone figures resting upon them.

Owing to the collapse of the exterior walls of The House of the Pigeons (PLATE II), no façade has been preserved, but judging from a small section of the exterior wall of the southwest annex which is still standing, it probably had been quite plain, bearing no sculptural decoration other than the triple-member cornice. The striking feature of this building is, of course, its lofty roof-comb, and with a fine sense of discrimination the ancient builders confined their decorative designs exclusively to it.

This massive roof ornament extending along the entire length of the building must have given in its entirety an imposing and dignified character to this structure. Such an embellishment could not fail to have attracted the attention of every one crossing the North Quadrangle, and must have awakened in the inhabitants of this ancient city vivid impressions concerning very definite religious conceptions.

Passing through the arcade of The House of the Pigeons, we enter the Court of the South Quadrangle (*N*, PLATE I *a* and *b*), the North Range of which, *M*, has just been described. This plaza, surrounded by ranges of rooms on every side, is 214 feet wide east and west and 147 feet deep. The centre is occupied by the customary low rectangular platform (*O*, PLATE I *a* and *b*), which in this instance, fortunately, is sufficiently well preserved to give an idea of the character of this interesting class of remains. It consists of a low platform 16 feet long by 14 feet wide and 1 foot high, from the western end of which rises a smaller platform also a foot high but covering less than half the area of the lower one. Upon this higher step there was mounted originally a monolith of cylindrical form. This

has fallen and lies in two fragments upon the lower step. A hole in the upper step, however, clearly indicates its former position. It is  $7\frac{1}{2}$  feet long, one foot and a half in diameter at its smaller (upper) end, and 2 feet in diameter at the base. The surface of this stone is too much weathered to show traces of carving if such were ever present.

Just south of this platform are two or three subterranean structures called "chultunes" (*P*, PLATE I *a* and *b*). Mr. E. H. Thompson, who examined the chultunes of Labna,<sup>1</sup> conjectures them to have been reservoirs to catch and hold water during the rainy season for use in the dry months. That these underground chambers were reservoirs for storing water seems likely from the fact that they occur in greatest abundance at those sites which are not provided with natural reservoirs. Thus, for example, they have been found in great numbers at Uxmal and Labna, but at Chichen Itza, which has two large natural water holes, none have been discovered. In the north-west corner of this court (*Q*, PLATE I *a*) there was originally a small building, which is now completely ruined.

The East and West Ranges of the South Quadrangle (*S* and *T* respectively, PLATE I *a*) rise from much higher terraces than the South Range *V*. The summits of both the former terraces are reached by six or seven low, deep steps running along their entire fronts, the three lowest of which only are continued across the south side of the court to form the terrace of the South Range *V*. The rises of these steps seem to have been from 10 to 12 inches high, and the treads from 4 to  $4\frac{1}{2}$  feet deep.

The East Range *S* is more destroyed than any other building of this group. This is due, no doubt, to its location not 10 feet from the base of the Great Pyramid (*R*, PLATE I *a*), in which position it has had to withstand the tremendous battering of the disintegrating masonry rolling down from above. It seems to have been about 120 feet long north and south and 22 feet wide. There were two series of rooms one behind the other, each containing five rooms, a total of ten for the building. The doorways to all of them were in their west

<sup>1</sup> *Memoirs Peabody Museum of American Archaeology and Ethnology*, Harvard University, vol. I, No. 3.

walls. The two southern rooms probably date from a later period than the rest of the building. The presence of a triple-member cornice, an exterior decorative element only, running across their northern walls, and the extreme thickness of these northern walls (*S*, PLATE I *a*) in comparison with all other partitions of the range, indicate that they were added after the building was completed. The façade of this range has fallen everywhere except at this southeast corner. Judging from the section here preserved it seems to have been quite plain except for the medial cornice of three members.

The West Range (*T*, PLATE I *a*), just opposite the preceding, is almost as badly demolished. Destruction here seems to have

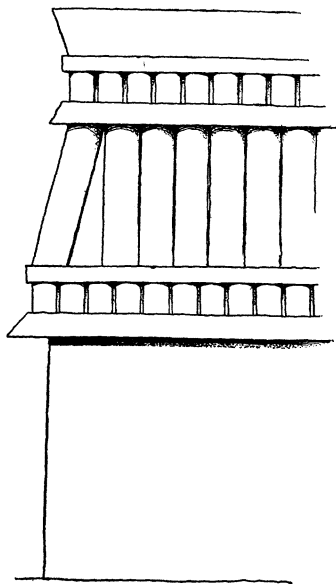


FIGURE 1. — FAÇADE OF RANGE *T*.

been due to the presence of a massive roof-comb even larger than that surmounting The House of the Pigeons. This has everywhere caused the collapse of the roof except in a small section near the middle of the building. This range is 115 feet long north and south, and 25 feet wide. It was composed of two series of rooms, one behind the other, each series containing six chambers, or a total of twelve for the range. Since the long middle wall shows no doorways, it is evident that entrance to the rooms of both series must have been effected through the exterior walls. At the southern end of the building the façade is in perfect condition. It is of unusual

interest, because it is the only one in the entire group now standing which shows sculptural decoration other than the triple-member cornice. The lower zone (Fig. 1) is plain. The upper zone is composed of a series of small decorative columns, which occupy the entire space between the two triple-member cornices, one of which divides the façade into two horizontal zones, while the other runs along the top of the building. These columns

lean inward. This gives to the upper zone the effect of a steep mansard roof. The middle member of both the upper and lower cornices is composed of a series of small drums, which harmonize well with the columns between them. These columns and drums were originally covered with fine white plaster and painted a bright red. Judging from the brilliancy of a small fragment that has been preserved, this building in its entirety must have presented a striking appearance.

Two feet south of this range *T*, and occupying the southwest corner of the South Court, there is another structure (*W*, PLATE I *a*). Débris is piled so high here, however, that it was impossible to determine either its ground-plan or its relation to the South Range *V*. Just west of Range *T* there is a small structure (*X*, PLATE I *a*) containing two rooms. It faces east, which is an additional item of evidence that this group was approached only from the north. (See its location with reference to the whole group in PLATE I *a*.) The rooms are 22 feet long north and south, 7 feet wide, and  $11\frac{1}{2}$  feet high. The doorway between them is 5 feet 9 inches wide. It had a wooden lintel, the fragments of which now strew the floor. The exterior doorway, in the east wall, has been destroyed, but judging from the opening, it seems to have been of about the same size. This little building is extremely well preserved. Its façade is quite plain except for the medial cornice.

The south and remaining range of this quadrangle (*V*, PLATE I *a* and *b*) is built against a solid rubble substructure *Y*, which forms the immediate approach to the South Pyramid. This range is composed of two series of rooms, one behind the other, each containing eight chambers. These, including a transverse room in the middle, make a total of seventeen rooms for the building. A close study of this transverse middle room reveals an interesting state of affairs. Originally it seems to have been an arcade, like that of The House of the Pigeons, passing through the centre of the building and opening upon a court now occupied by the rubble substructure *Y*. At one period in the history of the group, prior to the erection of this substructure and the South Pyramid, there had been south of Range *V* a court or group of buildings to which this arcade had

given access. Later, however, in order to make way for the substructure *Y*, this court was filled in to the level of the roof of Range *V*; and incident to these changes the southern end of this arcade was walled up. As a final step, in order to utilize the now abandoned arcade, a wall was built across its northern end in which a doorway was left, forming thus a new room. That we are dealing here with two different periods of construction seems probable also from the fact that there is a considerable difference in the orientation of the two parts of this group (PLATE I *a*). The bearing of The House of the Pigeons, for example, is north  $10^{\circ} 36' 45''$  east, and that of the temple surmounting the South Pyramid is north  $6^{\circ} 25' 15''$  east, or a difference of  $4^{\circ} 11' 30''$  in the orientation of these two structures. While it was impossible to take the bearing of Range *V* because of its advanced state of ruin, nevertheless, measurements in Court *N* indicate that the bearing of this range is about the same as that of The House of the Pigeons. This, however, was to be expected, inasmuch as The House of the Pigeons *M* and Ranges *S*, *T*, and *V* constitute a unit by themselves. The shifting of the approximate north and south axis of the South Pyramid and the temple surmounting it  $4^{\circ} 11' 30''$  nearer north than the approximate north and south axis of the rest of the group, would of itself indicate different periods of construction, especially since no buildings are found, immediately west of the South Pyramid, which could have interfered at the time of its erection with its being shifted somewhat toward the west so as to conform with the same north and south axis of the other members of the group.

This hypothesis of two periods of construction here is supported by a study of the north façade of Range *V*. Wherever it appears, the façade of this building seems to have been of the type most commonly found in the structures of this group, *i.e.* plain and divided horizontally by the triple-member cornice. Now, curiously enough, just before passing in front of the north wall of the re-used arcade, the cornice suddenly ceases and the wall is quite plain (Fig. 2). Moreover, the two ends of the cornice made by this break are not vertical but have the same slant and lie in the same north and south planes as the two sides of the arcade arch. This is strong evidence that

the cornice had been completed at a period when no wall stood at the north end of the arcade, and that later when this wall was built the cornice was not carried across its face. We have here, then, quite clearly two periods of construction: first, a period when the arcade passing through the centre of the South Range *V* gave into a court south of it; and second, a period after the South Pyramid and its substructure *Y* had been built, when the court south of Range *V* was filled in, and any structures that may have stood there were either torn down or covered up. The rooms of the South Range *V* vary in length from 18 to 22 feet east and west and are uniformly 8 feet wide. The doorways, which are all necessarily on the north side, vary from

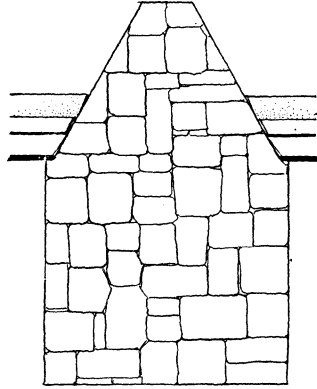


FIGURE 2. — THE BLOCKED ARCADE OF RANGE *V*.

3 to 4 feet wide. This range presents the only instance in the entire group of three intercommunicating rooms, it being possible to pass from the re-used arcade into the two rooms immediately west of it without leaving the building. At the western end of Range *V* and adjoining it at right angles there is another range of rooms on the same level (*Z*, PLATE I *a*), which extends along the western sides of *Y* and the South Pyramid. The southern end of this range, because of its location just below the South Pyramid, has been literally pounded to pieces by the stones falling from above. No attempt to reconstruct the ground-plan at this end was made, but the few rooms of the northern end which it was possible to measure were 18 or 19 feet long and 8 feet wide. It is not improbable that this range may have been composed of two series of rooms instead of one, as appears in PLATE I *a*, but ruin has advanced so far all along this western side that it would require much excavation to establish the original ground-plan.

The platform *Y* (PLATE I *a* and *b*) was reached by the third stairway *U*. This is 15 feet wide and rises from the low terrace which supports the South Range *V*, passing over that



building at its middle point (PLATE I *a* and *b*). Traces of the half arch, which was built under this stairway, allowing entrance to the arcade room, still adhere to the north façade at this point, though the greater part of the stairway is now in utter ruin.

Climbing over its fallen steps we reach the top of *Y*, which is 20 feet above the level of the South Court. This platform, as mentioned above, is the immediate substructure from which rises the final member of the group, the South Pyramid. It is 220 feet wide east and west, and extends back to the base of the pyramid, a distance of 130 feet. In the centre there is a mound of ruined masonry (*A'*, PLATE I *a* and *b*), which marks the site of the usual low platform (compare *E* and *O*, PLATE I *a* and *b*), and near by a fragment of the fallen picote, one foot and a half in diameter.

Two mounds (*B'* and *C'*, PLATE I *a*) extend across the eastern and western ends of *Y*, projecting from the north side of the South Pyramid, and having their summits on a level with its third terrace. They are 12 feet high. Each affords a building area of 50 feet north and south by 25 feet east and west. Originally these mounds supported at their northern extremities structures of some kind, which, in both cases, have now disappeared.

Along the west side of *C'*, the westernmost of these two mounds, and extending along the west side of the South Pyramid, is a range of seven or eight rooms (*G'*, PLATE I *a*). These rise from the level of the platform *Y*, and their back walls are built against *C'* and the South Pyramid. They vary in length from 20 to 22 feet north and south, and are uniformly 9 feet wide. Their roofs are on the same level as the summit of mound *C'* and the third terrace of the South Pyramid, or a height of 12 feet above *Y*. This Range *G'* is so placed that it rises from the edge of the masonry substructure *Y* against which Range *Z* is built (*Y*, *Z*, *G'*, PLATE I *a*). The roof of this latter range originally formed a terrace, now destroyed, in front of Range *G'*. Range *G'* has had to withstand almost as much battering from falling stones as Range *Z* just below it, and consequently its rooms are almost as completely demolished.

Just south of *A'* (PLATE I *a* and *b*) two steps cross platform *Y* from *B'* to *C'*, making a slightly higher level *D'*. From

this rises the fourth and last stairway *E'*, to the summit of the South Pyramid.

The South Pyramid itself is composed of nine terraces (PLATE I *a* and *b*), each 4 feet high, and each set back 4 feet from the edge of the one immediately below it. These terraces have vertical retaining walls and are faced with neatly dressed stone. The height of the South Pyramid proper, that is from *D'* to its summit, is 36 feet, but the total elevation above the level of the plain is 90 feet. The area on top is 116 feet long east and west and 30 feet wide. The only stairway *E'* is located on the north side, but it was too much destroyed to measure at any point.

The temple *F'* (PLATE I *a* and *b*) surmounting the South Pyramid is 104 feet long and 16 feet wide. The façade above the triple-member cornice has fallen, and it is impossible to say whether it had been sculptured originally or not. This building is composed of four rooms, three on the northern side in the same east and west line, and the fourth adjoining and communicating with the middle room of these three on its south side. These rooms vary in length from 30 to 32 feet, but are uniformly 13 feet high. The three front rooms are  $7\frac{1}{2}$  feet wide, just twice the width of the single back room, which is very narrow, being but 3 feet 8 inches wide (*F'*, PLATE I *a* and *b*). The four doorways of this building are all in the north walls of the rooms to which they give access, those of the middle room and the narrow room just south of it being 6 feet wide, and those of the east and west rooms 5 feet wide.

It is significant that here again in the southernmost structure of the group we find the same condition prevailing, *i.e.* that entrance could be effected only from the north. Not only has the South Pyramid no stairway on any other side, but the building upon its summit has no exterior doorways excepting the three in its north façade.

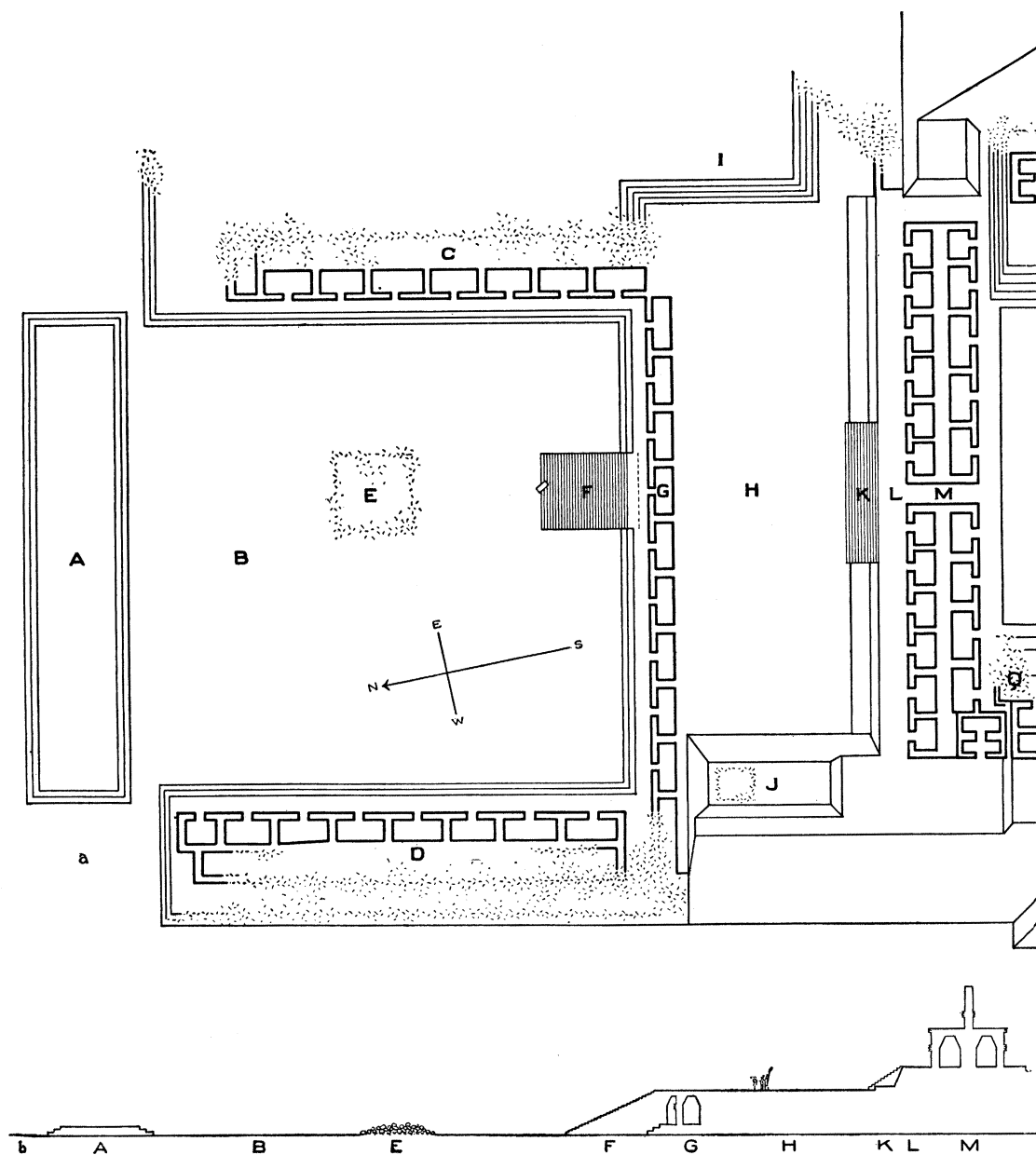
It was clearly the intention of the builders to compel all those whose duty or pleasure called them to this probably ceremonially important spot, to enter from a very definite direction by means of a formal approach. And even if future excavations should establish the presence of one or more stairways on the western side of the substructure, which now seems

unlikely, judging from the rather conspicuous facing of a building like *X*, PLATE I *a* and *b*, for example, to the east and away from the west, such a discovery would not alter the essential fact that the chief and probably ceremonial entrance had been from the north.

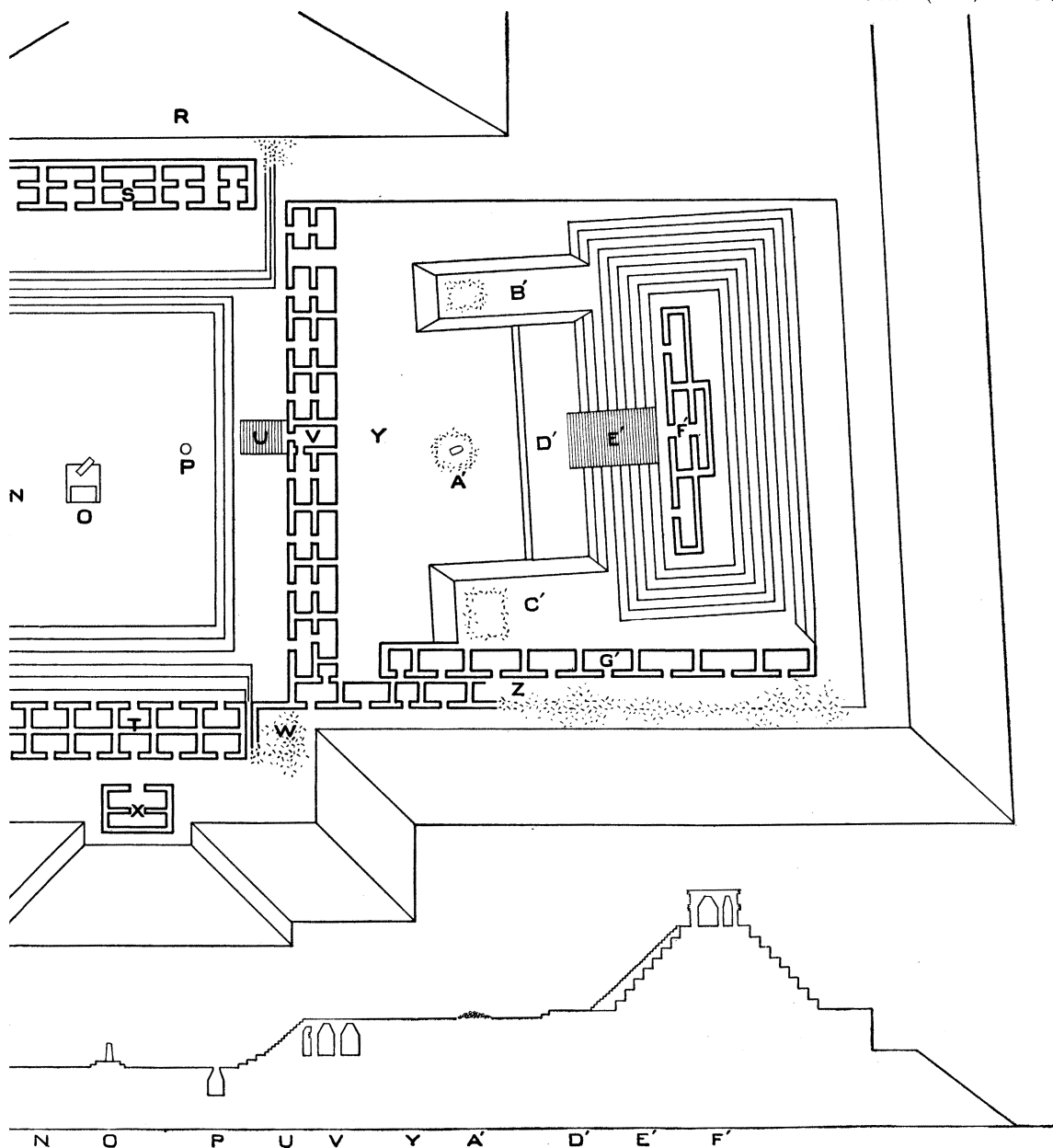
Standing upon the summit of the South Pyramid and looking northward, the scheme of the ancient builders clearly unfolds itself. The various ranges of rooms fall into an orderly arrangement around the sides of a series of successively higher courts, through which by means of the stairways and arcade runs the dominant idea of an approach to the summit of the South Pyramid. At this point all lines converge. Here, far above the subsidiary structures which line its thoroughfare, and admirably adapted in location and ground plan for such a purpose, towers a solitary temple, the ultimate expression of the group—its sanctuary.

SYLVANUS GRISWOLD MORLEY.

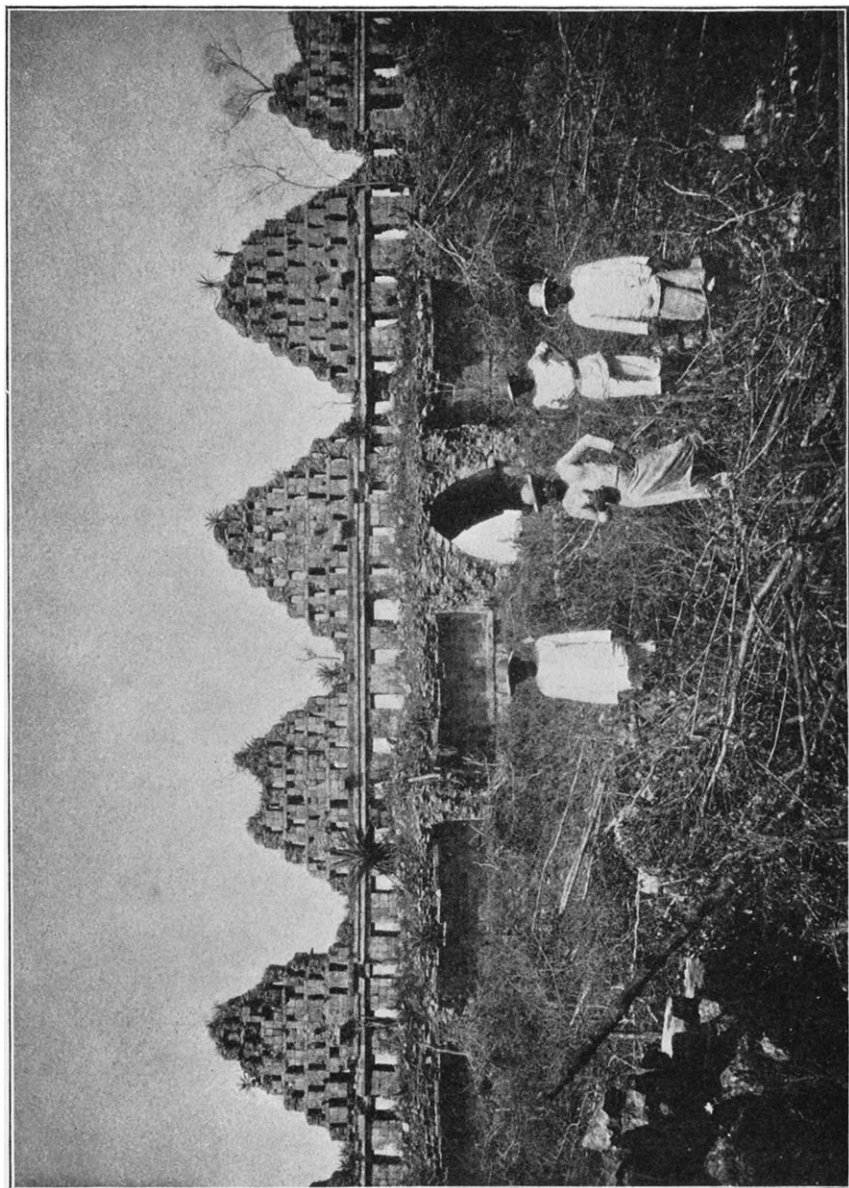
SCHOOL OF AMERICAN ARCHAEOLOGY,  
SANTA FÉ, NEW MEXICO.



a. MAP OF THE SOUTHWEST GROUP, UXMAL.



b. CROSS-SECTION OF THE SOUTHWEST GROUP, UXMAL



THE HOUSE OF THE PIGEONS (STRUCTURE *M*), UXMAL